

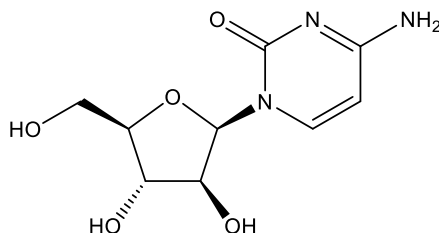
**Catalog # 10-1268**

**Cytarabine**

CAS# 147-94-4

4-Amino-1-β-D-arabinofuranosyl-2(1H)-pyrimidinone; Arabinocytidine; Cytosine β-D-Arabinofuranoside; U-19920A; Ara-C

Lot # X101625



Cytarabine (147-94-4) is a nucleoside analog that interferes with DNA synthesis and transcription, particularly in tumor cells.<sup>1,2</sup> Cellular enzymes convert it to its nucleotide form, Ara-CTP, which disrupts DNA and RNA synthesis when polymerases attempt to incorporate it.<sup>3,4</sup> For the same reasons, it is also employed as an antiviral.<sup>5</sup> It inhibits proliferation of a variety of leukemic cell lines (IC<sub>50</sub>s 16-72 nM), but is used primarily against acute myeloid leukemia (AML).<sup>6</sup>

- 1) Derissen & Beijnen (2020), *Intracellular Pharmacokinetics of Pyrimidine Analogues used in Oncology and the Correlation with Drug Action*; Clin. Pharmacokinet., **59** 1521
- 2) Z Li *et al.* (2017), *Exploring the Antitumor Mechanism of High-Dose Cytarabine through the Metabolic Perturbations of Ribonucleotide and Deoxyribonucleotide in Human Promyelocytic Leukemia HL-60 Cells*; Molecules, **22** E499
- 3) Zhang & Kiechle (2004), *Cytosine Arabinoside Substitution Decreases Transcription Factor-DNA Binding Element Complex Formation*; Arch. Pathol. Lab. Med., **128** 1364
- 4) Renis (1973), *Antiviral Activity of Cytarabine in Herpesvirus-Infected Rats*; Antimicrob. Agents Chemother., **4** 439
- 5) Qin *et al.* (2007), *Effect of Cytarabine and Decitabine in Combination in Human Leukemic Cell Lines*; Clin. Cancer Res., **13** 4225
- 6) Walter *et al.* (2020), *Optimal Dosing of Cytarabine in Induction and Post-Remission Therapy of Acute Myeloid Leukemia*; Leukemia, **35** 295

**PHYSICAL DATA**

Molecular Weight:	243.22
Molecular Formula:	C <sub>9</sub> H <sub>13</sub> N <sub>3</sub> O <sub>5</sub>
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 12 mg/ml) or in Water (up to 24 mg/ml).
Physical Description:	White to off-white solid
Storage and Stability:	Store as supplied at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or Water may be stored at -20°C for up to 1 month.

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